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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,188	08/06/2001	Ben J. Sloan	FSI0022/US/3	9116

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EXAMINER
FORD, JOHN K

ART UNIT	PAPER NUMBER
3743	

DATE MAILED: 09/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/923,188	Sloan
	Examiner	Art Unit
	FORD	3743

-- The MAILING DATE of this communication appears on the c v r sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 6-17-02

2a)☑ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☑ Claim(s) 27-31 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☑ Claim(s) 27-31 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15)☐ Notice of References Cited (PTO-892)
16)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18)☐ Interview Summary (PTO-413) Paper No(s). _____ .
19)☐ Notice of Informal Patent Application (PTO-152)
20)☐ Other:

Applicant's response of June 17, 2002 has been carefully considered.

Applicant has agreed to terminally disclaim USP 6,308,776. That disclaimer is required in response to this action and cannot be deferred until the current claims are allowed.

Applicant has traversed the requirement to terminally disclaim USP 5,706,890 and, in view of applicant's persuasive comments, that requirement is withdrawn.

Applicant has traversed the rejections based on Ebinuma and the other references based on an argument that is would not have been obvious to duplicate the feedback control devices (23, shown in Figure 2) for stations 7 and 8 because in col. 1, line 65 – col. 2, line 2 it states that the "present device" is "simple [in] structure and [of] a high precision". Apparently applicant meant to quote col. 1, lines 57-64. In col. 1, lines 57-64, it expressly states that prior art to Ebinuma used plural temperature regulators for plural zones. Notwithstanding Ebinuma's desire to produce a less expensive alternative, he does clearly teach that at least the same goal of precision control can be accomplished with plural feedback temperature regulators, albeit at increased cost. And why would one do that? The answer lies in Figure 2 and the description thereof found in col. 4, line 54- col. 5, line 6. One of the stations there (station 3) has a variable, irregular heat load and requires a feed back controller to maintain a constant temperature.

It is submitted that one of ordinary skill in the art, possessed of knowledge clearly disclosed in Ebinuma and known in the art, would have had ample motivation to have replicated the feed back controller shown at station 3 for any other station that also had

a variable and irregular heat load for the purpose of improving temperature control of that station. The two other stations of Ebinuma do not apparently have variable and irregular heat loads and, hence, do not need an expensive feed back controller. Moreover, as Ebinuma discusses in col. 5, lines 1-6, if the liquid flow rate changes a feed back device is required because a constant heat generator type system (as shown at all three stations in Figure 1) would need to be readjusted every time the flow rate changes.

It is respectfully submitted that the trade off between increased expense for a feed back type controller and improved control attained by feed back control is one which is implicitly taught and disclosed in the Ebinuma reference. The choice of more control, with more complexity by using separate feedback/control devices for each station is fairly taught as a choice left to the practitioner.

Applicant has no quarrel with respect to claims 28 and 31 and the prior art applied thereto, except for the reasons stated above. The previous office action is repeated below and incorporates by reference the comments made above.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statue) so as the prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi,* 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum,* 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel,* 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969)

A timely filed terminal disclaimer in compliance with 37CFR 1.321 may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 27-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,308,776. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 27-31, here, simply recite the same subject matter as that in USP 6,308,776, albeit more broadly. Courts have ruled that these broader pending claims directed to the same subject as the issued claims must be terminally disclaimed. See In re Goodman, referenced above, for the rationale.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 27, 29 and 30 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ebinuma et al (5,577,552).

See Figure 2 and the explanation thereof. Note heaters 15,16,17 each independently control temperature to stations 6,7, and 8. Note in col. 4, lines 10-30, the cooler is at 19.9 degrees C and the heaters heat the fluid to 20 degrees C.

To have controlled each of heaters 16 and 17 in a separate feedback loop such as shown in reference to heater 15 (controller 23, temperature sensor 22) in Figure 2 of Ebinuma would have been obvious to more precisely control temperature at stations 7 and 8, particularly if those stations, like station 6, had variable and irregular heat loads.

Claims 28 and 31 rejected under 35 U.S.C. 103(a) as being unpatentable over prior art as applied to claims 27 and 29 above, and further in view of JP 62-74112 or Moen or JP 4-371751 or JP 61-27444.

JP '112 teaches a bypass 12 (Figures 1 and 6) to improve the temperature control of a heater 11 responsive to a plurality of temperatures T1, T2 (Figure 6) and T1, T2, T3 (Figure 1).

To have used a bypass and controller such as taught by JP '112 (in Figures 1 and 6) around the in-line heaters (15, 16 and 17) of Ebinuma to improve temperature control would have been obvious.

Moen teaches a temperature controlled valve 118 (col. 5, lines 38-41) in a bypass line 24 around in-line heaters 40 and 42, for the purpose of preventing temperature "overshoot".

To have added a temperature responsive bypass such as taught by Moen around each of in-line heaters 15, 16 and 17 of Ebinuma to avoid any "overshoot" problems would have been obvious to one of ordinary skill.

JP '751 teaches a bypass 8 with a valve 7 and various sensor around heater 1 for the purpose of diminishing the variation of hot water temperature.

To have provided such a bypass valves and sensors as taught by JP '751 around each of the in-line heaters 15, 16, 17 of Ebinuma to reduce variations in hot fluid temperature would have been obvious to one of ordinary skill.

Finally, JP '444 in Figures 2 and 4 teaches a bypass (having valve 16 in Figure 2 and valve 24 in Figure 4) around an in-line heater 17 to maintain fluid temperatures at desired levels. To have added such a bypass, valves and restrictors around each of in-line heaters 15, 16 and 17 of Ebinuma to properly maintain fluid temperatures would have been obvious to one of ordinary skill.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to John Ford at telephone number 703-308-2636.